

ABSTRACT OF THE DISCLOSURE

A wireless landing gear monitoring system for an aircraft. The monitoring system includes a wireless, e.g. radio frequency (RF), hubcap transceiver powered by a rechargeable battery combined with a super-capacitor, all mounted to an inside surface of a wheel hubcap of the aircraft. Additionally, the system includes a permanent magnet generator (PMG) mounted to the inside surface of the hubcap that charges the battery when the wheel is rotating. The hubcap transceiver communicates with at least one distant, or remote, transceiver inside the aircraft, a tire pressure sensor mounted to a wheel rim, and a Hall-effect wheel speed transducer mounted to the hubcap. The tire pressure sensor uses an extremely low power wireless transmitter to communicate with the hubcap transceiver, which then sends wheel speed and tire pressure data to the distant transceiver.